1: J Gen Virol 1994 Mar;75 (Pt 3):663-8 Related Articles, Links

A single amino acid change in the E2 spike protein of a virulent strain of Semliki Forest virus attenuates pathogenicity.

Glasgow GM, Killen HM, Liljestrom P, Sheahan BJ, Atkins GJ.

Department of Microbiology, Moyne Institute, Trinity College, Dublin, Ireland.

The virulent strain SFV4 of Semliki Forest virus (SFV), produced from the infectious clone pSP6-SFV4, is lethal after intranasal (i.n.) infection of adult mice and for pregnant mice after intraperitoneal (i.p.) infection. In contrast, the A7 strain of SFV is avirulent when given i.n. to adult mice, but induces fetal death in pregnant mice after i.p. infection. The nucleotide and deduced amino acid sequences of part of the core and all of the envelope region of A7-SFV were determined and compared to those of SFV4. A7 differed from SFV4 at 80 nucleotides (nt) in the coding sequence, 15 of which were associated with amino acid differences and seven of which (two in the E2 protein and five in E1) were non-conservative. The 3' non-coding sequence of A7 was longer (415 nt) than that of SFV4 (263 nt) and a divergent sequence of 181 nt was present adjacent to the end of the E1 coding region. The effects on virulence of two mutations in the E2 gene of SFV4, resulting in the non-conservative amino acid substitutions present in A7, were analysed. One mutation (mut 8729 a/c) resulted in only slight attenuation, whereas the other (mut 8902 a/g) resulted in avirulence for pregnant mice. However, mut 8902 a/g was lethal for the majority of developing fetuses after i.p. infection of the mother.

PMID: 8126464 [PubMed - indexed for MEDLINE]

13
3) 41 5 11
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11

1: Virology 1991 Dec;185(2):741-8 Related Articles, Links

Two mutations in the envelope glycoprotein E2 of Semliki Forest virus affecting the maturation and entry patterns of the virus alter pathogenicity for mice.

Glasgow GM, Sheahan BJ, Atkins GJ, Wahlberg JM, Salminen A, Liljestrom P.

Department of Microbiology, Moyne Institute, Trinity College, Dublin, Ireland.

The prototype strain of Semliki Forest virus (SFV) of known sequence and virus produced by the cDNA clone derived from it were lethal following intranasal (i.n.) infection of 40-day-old and intraperitoneal (i.p.) infection of pregnant BALB/c mice; this lethality was related to neuronal necrosis in the central nervous system (CNS). We conclude that the virulence of the prototype strain, and virus from the cDNA clone derived from it, is similar to that of L10 (the original SFV isolate). The effects of two mutations in the p62 envelope protein region of the clone were determined. Substitution of Glu for Lys at position 162 (mut64) extended the mean time of death following i.n. inoculation of 40-day-old mice. Pregnant mice infected with this virus survived but lethal infection of some fetuses did occur. Substitution of Leu for Arg at position 66 (mL), the cleavage site of the E2 and E3 proteins, results in the production of particles containing uncleaved p62. These particles were less virulent than the prototype strain when inoculated i.n. and induced immunity to virulent SFV challenge. The virus also induced the formation of multifocal glial nodules in the CNS of surviving mice. The differences in pathogenicity between the two mutants and the virulent parental virus are probably related to differences in the efficiency of virus multiplication in infected mice. The mut64 mutation attenuated the virus and allowed survival of pregnant mice infected i.p. so that the effects of fetal infection could be detected. The mL mutation allowed survival of i.n.-infected mice so that the later effects of virus multiplication in the CNS could be assessed. In the former case, this is probably a result of reduced virus release, whereas in the latter case it is due to inefficient entry of host cells. The results are consistent with our previous suggestion that lethality for virulent SFV infection results from a lethal threshold of damage to neurons in the CNS and that attenuating mutations may reduce neuronal damage below this threshold level.

PMID: 1660202 [PubMed - indexed for MEDLINE]

1: Virology 2001 Jan 5;279(1):146-60 Related Articles, Links

Differential roles of two conserved glycine residues in the fusion peptide of Semliki Forest virus.

Shome SG, Kielian M.

Department of Cell Biology, Albert Einstein College of Medicine, Bronx, New York, 10461, USA.

Semliki Forest Virus (SFV) is an enveloped alphavirus that infects cells by a low-pH-dependent membrane fusion reaction. SFV fusion is catalyzed by the spike protein E1 subunit, which contains a putative fusion peptide between residues 79 and 97. Prior mutagenesis studies demonstrated that an E1 G91D mutation blocks both virus-membrane fusion and the formation of a highly stable E1 trimer believed to be a critical fusion intermediate. We have here demonstrated that the G91D mutant was also inactive in hemifusion, suggesting that the E1 homotrimer is important in the initial stages of lipid mixing. Revertant analysis of a G91 deletion mutant indicated that G91 was crucial for the viability of SFV. In contrast, a G83D mutation produced infectious virus with both efficient fusion and homotrimer formation. Thus, the G83 position, although highly conserved among alphaviruses, was functional if replaced with a charged amino acid. Copyright 2001 Academic Press.

PMID: 11145898 [PubMed - indexed for MEDLINE]

A single deletion in the membrane-proximal region of the Sindbis virus glycoprotein E2 endodomain blocks virus assembly.

Hernandez R, Lee H, Nelson C, Brown DT.

Department of Biochemistry, North Carolina State University, Raleigh, North Carolina 27695, USA.

The envelopment of the Sindbis virus nucleocapsid in the modified cell plasma membrane involves a highly specific interaction between the capsid (C) protein and the endodomain of the E2 glycoprotein. We have previously identified a domain of the Sindbis virus C protein involved in binding to the E2 endodomain (H. Lee and D. T. Brown, Virology 202:390-400, 1994). The C-E2 binding domain resides in a hydrophobic cleft with C Y180 and W247 on opposing sides of the cleft. Structural modeling studies indicate that the E2 domain, which is proposed to bind the C protein (E2 398T, 399P, and 400Y), is located at a sufficient distance from the membrane to occupy the C protein binding cleft (S. Lee, K. E. Owen, H. K. Choi, H. Lee, G. Lu, G. Wengler, D. T. Brown, M. G. Rossmann, and R. J. Kuhn, Structure 4:531-541, 1996). To measure the critical spanning length of the E2 endodomain which positions the TPY domain into the putative C binding cleft, we have constructed a deletion mutant, DeltaK391, in which a nonconserved lysine (E2 K391) at the membrane-cytoplasm junction of the E2 tail has been deleted. This mutant was found to produce very low levels of virus from BHK-21 cells due to a defect in an unidentified step in nucleocapsid binding to the E2 endodomain. In contrast, DeltaK391 produced wild-type levels of virus from tissue-cultured mosquito cells. We propose that the phenotypic differences displayed by this mutant in the two diverse host cells arise from fundamental differences in the lipid composition of the insect cell membranes which affect the physical and structural properties of membranes and thereby virus assembly. The data suggest that these viruses have evolved properties adapted specifically for assembly in the diverse hosts in which they grow.

PMID: 10756035 [PubMed - indexed for MEDLINE]

1: Virology 1995 Feb 1;206(2):1027-34 Related Articles, Links

ELSEVIER SCIENCE FULL-TEXT ARTICLE

A pseudo-revertant of a Sindbis virus 6K protein mutant, which corrects for aberrant particle formation, contains two new mutations that map to the ectodomain of the E2 glycoprotein.

Ivanova L, Lustig S, Schlesinger MJ.

Department of Molecular Microbiology, Washington University School of Medicine, St. Louis, Missouri 63110-1073.

Most site-directed mutations in the gene encoding the small, membrane-associated 6K protein of Sindbis virus interfere selectively with virus assembly and budding. Particles are released that are aberrant in structure, with a single membrane enclosing multiple nucleocapsids. A revertant for the mutation that inserted a serine for a cysteine at position 39 in the 6K protein was isolated and found to correct for the defective budding so that normal particles were formed. Genetic analysis of this revertant showed that two additional mutations, which were mapped to the ectodomain of the E2 virus glycoprotein, were present in addition to the original 6K substitution. The phenotype of the revertant differed from the wild-type strain and the original mutation with regard to plaque size, thermostability, and growth in neuronal cells. Five new virus genetic constructs were prepared by insertion of these mutations into the wild-type virus. Phenotypes of these constructs confirmed that the mutations in the E2 ectodomain were responsible for both correcting the original defect in budding as well as imparting changes in cell tropism, plaque size, and thermolability on the virus. These results indicate that 6K may play an indirect role in the packing of the virus spike glycoproteins, which allows for membrane deformation and bending during the budding process.

PMID: 7856077 [PubMed - indexed for MEDLINE]

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PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Books

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```
=> "dogue virus"
             1 "DOGUE"
        276438 "VIRUS"
         56493 "VIRUSES"
        286174 "VIRUS"
                 ("VIRUS" OR "VIRUSES")
L8           0 "DOGUE VIRUS"
                 ("DOGUE"(W)"VIRUS")

=> "dugue virus"
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        286174 "VIRUS"
                 ("VIRUS" OR "VIRUSES")
L9           0 "DUGUE VIRUS"
                 ("DUGUE"(W)"VIRUS")

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           838 "FLAVIVIRUS"
           445 "FLAVIVIRUSES"
L10        999 "FLAVIVIRUS"
                 ("FLAVIVIRUS" OR "FLAVIVIRUSES")

=> "glycoprotein E2"
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         89463 "GLYCOPROTEINS"
        125459 "GLYCOPROTEIN"
                 ("GLYCOPROTEIN" OR "GLYCOPROTEINS")
         45040 "E2"
L11        369 "GLYCOPROTEIN E2"
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L12          1 L10 AND L11

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          2897 "ROSS"
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         71738 "RIVER"
         15236 "RIVERS"
         77331 "RIVER"
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        276438 "VIRUS"
         56493 "VIRUSES"
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L14          92 "ROSS RIVER VIRUS"
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=> "glycoprotein"
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L15     125459 "GLYCOPROTEIN"
                 ("GLYCOPROTEIN" OR "GLYCOPROTEINS")

=> L14 and L15
L16          32 L14 AND L15

=> mutation and L16
        178831 MUTATION
        114887 MUTATIONS
        222022 MUTATION
                 (MUTATION OR MUTATIONS)
L17          10 MUTATION AND L16

=> "amino acid 158" and L17
        890529 "AMINO"
            40 "AMINOS"
        890546 "AMINO"
                 ("AMINO" OR "AMINOS")
       3527472 "ACID"
       1348868 "ACIDS"
       3991026 "ACID"
                 ("ACID" OR "ACIDS")
         33313 "158"
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                 ("AMINO"(W)"ACID"(W)"158")
L18           0 "AMINO ACID 158" AND L17
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          6073 "HCV"
            15 "HCVS"
          6076 "HCV"
                 ("HCV" OR "HCVS")
         45040 "E2"
         82153 "GLYCOPROTEIN"
         89463 "GLYCOPROTEINS"
        125459 "GLYCOPROTEIN"
                 ("GLYCOPROTEIN" OR "GLYCOPROTEINS")
L1           9 "HCV E2 GLYCOPROTEIN"
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=> mutation and L1
        178831 MUTATION
        114887 MUTATIONS
        222022 MUTATION
                 (MUTATION OR MUTATIONS)
L2           0 MUTATION AND L1

=> L1 and mutation
        178831 MUTATION
        114887 MUTATIONS
        222022 MUTATION
                 (MUTATION OR MUTATIONS)
L3           0 L1 AND MUTATION

=> mutation
        178831 MUTATION
        114887 MUTATIONS
L4      222022 MUTATION
                 (MUTATION OR MUTATIONS)

=> L1 and L4
L5           0 L1 AND L4

=> "HCV glycoprotein E2"
          6073 "HCV"
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          6076 "HCV"
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         82153 "GLYCOPROTEIN"
         89463 "GLYCOPROTEINS"
        125459 "GLYCOPROTEIN"
                 ("GLYCOPROTEIN" OR "GLYCOPROTEINS")
         45040 "E2"
L6           5 "HCV GLYCOPROTEIN E2"
                 ("HCV"(W)"GLYCOPROTEIN"(W)"E2")

=> L6 and L4
L7           2 L6 AND L4
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```
=> venezuelan (w) equine (w) encephalitis (w) virus
          1601 VENEZUELAN
             9 VENEZUELANS
          1606 VENEZUELAN
                 (VENEZUELAN OR VENEZUELANS)
          7814 EQUINE
           107 EQUINES
          7875 EQUINE
                 (EQUINE OR EQUINES)
          5428 ENCEPHALITIS
             1 ENCEPHALITISES
          5428 ENCEPHALITIS
                 (ENCEPHALITIS OR ENCEPHALITISES)
        276438 VIRUS
         56493 VIRUSES
        286174 VIRUS
                 (VIRUS OR VIRUSES)
L19        270 VENEZUELAN (W) EQUINE (W) ENCEPHALITIS (W) VIRUS

=> glycoprotein and L19
         82153 GLYCOPROTEIN
         89463 GLYCOPROTEINS
        125459 GLYCOPROTEIN
                 (GLYCOPROTEIN OR GLYCOPROTEINS)
L20         81 GLYCOPROTEIN AND L19

=> glycoprotein (s) E2
'E2' NOT FOUND
The E# entered is not currently defined.

=> "glycoprotein E2"
         82153 "GLYCOPROTEIN"
         89463 "GLYCOPROTEINS"
        125459 "GLYCOPROTEIN"
                 ("GLYCOPROTEIN" OR "GLYCOPROTEINS")
         45040 "E2"
L21        369 "GLYCOPROTEIN E2"
                 ("GLYCOPROTEIN"(W)"E2")

=> L21 and L19
L22         23 L21 AND L19

=> mutation and L22
        178831 MUTATION
        114887 MUTATIONS
        222022 MUTATION
                 (MUTATION OR MUTATIONS)
L23         11 MUTATION AND L22

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L23  ANSWER 1 OF 11  CAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2002:79879  CAPLUS
DOCUMENT NUMBER:          136:275804
TITLE:                    Positively charged amino acid substitutions in the E2
                          envelope glycoprotein are associated with the
```

emergence of **Venezuelan equine encephalitis virus**

AUTHOR(S): Brault, Aaron C.; Powers, Ann M.; Holmes, Edward C.; Woelk, C. H.; Weaver, Scott C.

CORPORATE SOURCE: Center for Tropical Diseases and Department of Pathology, University of Texas Medical Branch, Galveston, TX, 77555-0609, USA

SOURCE: Journal of Virology (2002), 76(4), 1718-1730
CODEN: JOVIAM; ISSN: 0022-538X

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Epidemic-epizootic Venezuelan equine encephalitis (VEE) viruses (VEEV) have emerged repeatedly via convergent evolution from enzootic predecessors. However, previous sequence analyses have failed to identify common sets of nucleotide or amino acid substitutions assocd. with all emergence events. During 1993 and 1996, VEEV subtype IE epizootics occurred on the Pacific Coast of the states of Chiapas and Oaxaca in southern Mexico. Like other epizootic VEEV strains, when inoculated into guinea pigs and mice, the Mexican isolates were no more virulent than closely related enzootic strains, complicating genetic studies of VEE emergence. Complete genomic sequences of 4 of the Mexican strains were detd. and compared to those of closely related enzootic subtype IE isolates from Guatemala. The epizootic viruses were less than 2% different at the nucleotide sequence level, and phylogenetic relationships confirmed that the equine-virulent Mexican strains probably evolved from enzootic progenitors on the Pacific Coast of Mexico or Guatemala. Of 35 amino acids that varied among the Guatemalan and Mexican isolates, only 8 were predicted phylogenetically to have accompanied the phenotypic change. One **mutation** at position 117 of the E2 envelope glycoprotein, involving replacement of Glu by Lys, resulted in a small-plaque phenotype characteristic of epizootic VEEV strains. Anal. of addnl. E2 sequences from representative enzootic and epizootic VEEV isolates implicated similar surface charge changes in the emergence of previous South American epizootic phenotypes, indicating that E2 **mutations** are probably important determinants of the equine-virulent phenotype and of VEE emergence. Maximum-likelihood anal. indicated that one change at E2 position 213 has been influenced by pos. selection and convergent evolution of the epizootic phenotype.

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:5489 CAPLUS

DOCUMENT NUMBER: 126:58582

TITLE: **Glycoproteins E2** of the Venezuelan and Eastern equine encephalomyelitis viruses contain multiple cross-reactive epitopes

AUTHOR(S): Pereboev, A. V.; Razumov, I. A.; Svyatchenko, V. A.; Loktev, V. B.

CORPORATE SOURCE: Inst. Molecular Biology, State Res. Center Virology and Biotechnology, Koltsovo, Russia

SOURCE: Archives of Virology (1996), 141(11), 2191-2205
CODEN: ARVIDF; ISSN: 0304-8608

PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Enzyme immunoassay (EIA) with sixty types of monoclonal antibodies (MAbs) was used to study cross-reactive epitopes on the attenuated and virulent strains of the Eastern equine encephalomyelitis (EEE) and Venezuelan equine encephalomyelitis (VEE) viruses. All three structural proteins of the EEE and VEE viruses were demonstrated to have both cross-reactive and specific antigenic determinants. The glycoprotein E1 of EEE and VEE viruses possesses three cross-reactive epitopes for binding to MAbs. **Glycoprotein E2** has a cluster of epitopes for 20 cross-reacting MAbs produced to EEE and VEE viruses. Cross-reactive epitopes ere localised within five different sites of **glycoprotein E2** of VEE virus and within four sites of that of the EEE virus. There are no cross-neutralizing MABs to the VEE and EEE viruses. Only one type of the protective Mabs was able to cross-protect mice against lethal infection by the virulent strains of the VEE and EEE viruses. Eight MAbs blocked the hemagglutination activity (HA) of both viruses. Antigenic alterations of neutralizing and protective sites were revealed for all attenuated strains of the VEE and EEE viruses. Comparative studies of the E2 proteins amino acid sequences show that the antigenic modifications obsd. with the attenuated strains of the VEE virus may be caused by multiple amino acid changes in positions 7, 62, 120, 192 and 209-213. The escape-variants of the VEE virus obtained with cross-reactive MAbs 7D1, 2D4 and 7A6 have **mutations** of the E2 protein at positions 59, 212-213 and 232, resp. Amino acid sequences in these regions of the VEE and EEE viruses are not homologous. These observations indicate that cross-reactive MAbs are capable of recognizing discontinuous epitopes on the E2 glycoprotein.

L23 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:25862 CAPLUS
DOCUMENT NUMBER: 120:25862
TITLE: Mapping of VEE **glycoprotein E2** sites E2-2 and E2-6 using peptides
AUTHOR(S): Svyatchenko, V. A.; Pereboev, A. V.; Agapov, E. V.; Razumov, I. A.; Sabirov, A. N.; Mizenko, G. A.; Samukov, V. V.; Loktev, V. B.
CORPORATE SOURCE: NII Mol. Biol., Russia
SOURCE: Voprosy Virusologii (1993), 38(4), 162-7
CODEN: VVIRAT; ISSN: 0507-4088
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Nine peptides were synthesized for detailed mapping of **Venezuelan equine encephalitis virus** (VEE) surface **glycoprotein E2** E2-2 and E2-6 sites responsible for the formation of the protective antibodies that neutralize the virus and block hemagglutination. The sequence of the peptides overlapped the regions of amino acid residues 30-75 and 202-250 of VEE virus E2 protein in which antigenic **mutations** caused by monoclonal antibodies to E2-2 and E2-6 sites had been mapped. None of the synthesized peptides reacted with a panel of 17 monoclonal antibodies in enzyme immunoassay. However, eight peptides reacted with polyclonal antiviral serum and two of them elicited antiviral antibody prodn. The E2-2 site might be assocd. with amino acid

residues 30-45. The region of **glycoprotein E2** around residues 57-62 in which antigenic **mutations** were obsd. was not a linear type antigenic determinant , but participated in the formation of antigenic determinants of the conformational type. The maping of residues 202-250 demonstrated that all the peptides in this region were well recognized by polyclonal antiviral serum. The residues 235-240 were shown to form a linear epitope which provided a crossover between VEE and Eastern equine encephalomyelitis virus (EEE) and was not recognized by 19 types of monoclonal antibodies cross-reacting with VEE and EEE viruses.

L23 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:513017 CAPLUS
DOCUMENT NUMBER: 119:113017
TITLE: Attenuation of **Venezuelan equine encephalitis virus** strain TC-83 is encoded by the 5'-noncoding region and the E2 envelope glycoprotein
AUTHOR(S): Kinney, Richard M.; Chang, Gwong Jen; Tsuchiya, Kyotaka R.; Sneider, Judith M.; Roehrig, John T.; Woodward, Tonja M.; Trent, Dennis W.
CORPORATE SOURCE: Div. Vector-Borne Infect. Dis., Natl. Cent. Infect. Dis., Fort Collins, CO, 80522-2087, USA
SOURCE: Journal of Virology (1993), 67(3), 1269-77
CODEN: JOVIAM; ISSN: 0022-538X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The virulent Trinidad donkey (TRD) strain of Venezuelan equine encephalitis (VEE) virus and its live attenuated vaccine deriv., TC-83 virus, have different neurovirulence characteristics. A full-length cDNA clone of the TC-83 virus genome was constructed behind the bacteriophage T7 promoter in the polylinker of plasmid pUC18. To identify the genomic determinants of TC-83 virus attenuation, TRD virus-specific sequences were inserted into the TC-83 virus clone by in vitro mutagenesis or recombination. Antigenic anal. of recombinant viruses with VEE E2- and E1-specific monoclonal antibodies gave predicted antigenic reactivities. Mouse challenge expts. indicated that genetic markers responsible for the attenuated phenotype of TC-83 virus are composed of genome nucleotide position 3 in the 5'-noncoding region and the E2 envelope glycoprotein. TC-83 virus amino acid position E2-120 appeared to be the major structural determinant of attenuation. Insertion of the TRD virus-specific 5'-noncoding regions, by itself, into the TC-83 virus full-length clone did not alter the attenuated phenotype of the virus. However, the TRD virus-specific 5'-noncoding region enhanced the virulence potential of downstream TRD virus amino acid sequences.

L23 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:185124 CAPLUS
DOCUMENT NUMBER: 118:185124
TITLE: CDNA clone coding for **venezuelan equine encephalitis virus** and attenuating **mutations** thereof
INVENTOR(S): Davis, Nancy L.; Willis, Loretta V.; Johnston, Robert E.; Smith, Jonathan F.
PATENT ASSIGNEE(S): North Carolina State University, USA
SOURCE: U.S., 24 pp.

CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5185440	A	19930209	US 1989-369023	19890620

PRIORITY APPLN. INFO.: US 1989-369023 19890620

AB A DNA comprising a venezuelan equine encephalitis (VEE) cDNA fused to a heterologous promoter, said cDNA contg. attenuating **mutations** in the **glycoprotein E2** gene is claimed. CDNA encoding full-length VEE RNA, VEE RNA with a deletion in the nsP3 gene, and VEE RNA with attenuating substitution **mutations** in the E2 gene were prepd. The RNA produced in vitro from the full-length and deletion mutant cDNAs was infectious.

L23 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:443375 CAPLUS
DOCUMENT NUMBER: 115:43375
TITLE: Attenuating **mutations** in the E2 glycoprotein gene of **Venezuelan equine encephalitis virus**: construction of single and multiple mutants in a full-length cDNA clone
AUTHOR(S): Davis, Nancy L.; Powell, Nathaniel; Greenwald, Gary F.; Willis, Loretta V.; Johnson, Barbara J. B.; Smith, Jonathan F.; Johnston, Robert E.
CORPORATE SOURCE: Sch. Med., Univ. North Carolina, Chapel Hill, NC, 27599, USA
SOURCE: Virology (1991), 183(1), 20-31
CODEN: VIRLAX; ISSN: 0042-6822
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Attenuated mutants of **Venezuelan equine encephalitis virus** (VEE) were isolated by selection for rapid penetration of cultured cells (Johnston, R. E. and Smith, J. F., 1988). Sequence anal. of these mutants identified candidate attenuating **mutations** at 4 loci in the VEE E2 glycoprotein gene: a double **mutation** at E2 codons 3 and 4, and single substitutions at E2, 76, 120, and 209. Each candidate **mutation** was reproduced in an isogenic recombinant VEE strain using site-directed mutagenesis of a full-length cDNA clone of VEE. Characterization of these molecularly cloned mutant viruses showed that **mutation** at each of the 4 loci in the E2 gene was sufficient to confer both the accelerated penetration and attenuation phenotypes. Inoculation of the molecularly cloned viruses into rodent models that differ in their response to VEE suggested that individual **mutations** affected different aspects of VEE pathogenesis. Full-length clones contg. multiple **mutations** were produced by combining independently attenuating **mutations**. Molecularly cloned viruses carrying 2 or 3 **mutations** were more attenuated in sensitive animal models than were viruses which contained any single **mutation** alone. However, these highly attenuated strains still retained the ability to induce an immune response sufficient to protect against a high dose challenge with virulent VEE. These results indicate that prodn. of a molecularly cloned live virus vaccine for VEE is feasible.

L23 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:650587 CAPLUS
DOCUMENT NUMBER: 115:250587
TITLE: A single amino acid change in the E2 glycoprotein of **Venezuelan equine encephalitis virus** affects replication and dissemination in Aedes aegypti mosquitoes
AUTHOR(S): Woodward, Tonja M.; Miller, Barry R.; Beaty, Barry J.; Trent, Dennis W.; Roehrig, John T.
CORPORATE SOURCE: Public Health Serv., Cent. Dis. Control, Fort Collins, CO, 80522, USA
SOURCE: Journal of General Virology (1991), 72(10), 2431-5
CODEN: JGVIAY; ISSN: 0022-1317
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Four monoclonal antibody-resistant variants (MARVs) of Venezuelan equine encephalitis (VEE) virus were used to study mosquito-virus interactions. In vitro expts. using an A. albopictus cell line, C6/36, demonstrated that an amino acid change in the glycoprotein E2h epitope (MARV 1A3B-7) decreased virus growth when compared with the wild-type, Trinidad donkey virus, and its vaccine deriv., TC-83. The MARVs replicated as efficiently as the parent virus when inoculated into A. aegypti mosquitoes, but MARV 1A3B-7 was restricted in its ability to infect and disseminate from the midgut following oral infection. These results demonstrate that a single amino acid change in the E2 glycoprotein can affect the ability of VEE virus to replicate and disseminate in A. aegypti mosquitoes.

L23 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:97852 CAPLUS
DOCUMENT NUMBER: 118:97852
TITLE: Effect of **mutations** in structural protein genes on attenuation of **Venezuelan equine encephalitis virus**
AUTHOR(S): Frolov, I. V.; Agapov, E. V.; Kolykhalov, A. A.; Netesov, S. V.; Sandakhchiev, L. S.
CORPORATE SOURCE: Nauchno-Proizvod. Ob'edin. "Vektor", Koltsovo, Russia
SOURCE: Doklady Akademii Nauk (1992), 326(6), 1078-82 [Virol.]
CODEN: DAKNEQ; ISSN: 0869-5652
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Variants of Venezuelan equine encephalomyelitis virus carrying **mutations** in genes for **glycoprotein E2** and capsid protein C were obtained. These mutants were less pathogenic to mice than wild-type virions. Plasmids carrying the mutated genes were constructed (pVE7120, pVE230, pVETC230) and expressed in Escherichia coli.

The results are discussed in relation to development of highly attenuated live vaccines for protection against alphavirus infections.

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NEWS 4	Apr 09	ZDB will be removed from STN
NEWS 5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS 8	Apr 22	Federal Research in Progress (FEDRIP) now available
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NEWS 10	Jun 10	MEDLINE Reload
NEWS 11	Jun 10	PCTFULL has been reloaded
NEWS 12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS 13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS 14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS 15	Jul 30	NETFIRST to be removed from STN
NEWS 16	Aug 08	CANCERLIT reload
NEWS 17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 18	Aug 08	NTIS has been reloaded and enhanced
NEWS 19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 23	Sep 03	JAPIO has been reloaded and enhanced
NEWS 24	Sep 16	Experimental properties added to the REGISTRY file
NEWS 25	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 26	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 27	Oct 21	EVENTLINE has been reloaded
NEWS 28	Oct 24	BEILSTEIN adds new search fields
NEWS 29	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 30	Oct 25	MEDLINE SDI run of October 8, 2002
NEWS 31	Nov 18	DKILIT has been renamed APOLLIT
NEWS 32	Nov 25	More calculated properties added to REGISTRY
NEWS 33	Dec 02	TIBKAT will be removed from STN
NEWS 34	Dec 04	CSA files on STN
NEWS 35	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 36	Dec 17	TOXCENTER enhanced with additional content
NEWS 37	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 38	Dec 30	ISMEC no longer available
NEWS 39	Jan 13	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 40	Jan 21	NUTRACEUT offering one free connect hour in February 2003
NEWS 41	Jan 21	PHARMAML offering one free connect hour in February 2003

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 NEWS EXPRESS  January 6 CURRENT WINDOWS VERSION IS V6.01a,
               CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
               AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
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 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
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=> alphavirus (l) E2 (l) mutation
'E2' NOT FOUND
The E# entered is not currently defined.

=> alphavirus (w) mutation
L1            1 ALPHAVIRUS (W) MUTATION

=> Alphavirus (l) mutation
L2          135 ALPHAVIRUS (L) MUTATION

=> E2 (w) glycoprotein
'E2' NOT FOUND
The E# entered is not currently defined.

=> encapside (w) protein
L3            0 ENCAPSIDE (W) PROTEIN

=> glycoprotein
L4       219975 GLYCOPROTEIN

=> L2 and L4
L5           48 L2 AND L4
```

=> D L5 IBIB TI 1-48

L5 ANSWER 1 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:749758 CAPLUS
DOCUMENT NUMBER: 138:21957
TITLE: Molecular genetic evidence that the hydrophobic anchors of **glycoproteins** E2 and E1 interact during assembly of alphaviruses
AUTHOR(S): Strauss, Ellen G.; Lenches, Edith M.; Strauss, James H.
CORPORATE SOURCE: Division of Biology, California Institute of Technology, Pasadena, CA, 91125, USA
SOURCE: Journal of Virology (2002), 76(20), 10188-10194
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Molecular genetic evidence that the hydrophobic anchors of **glycoproteins** E2 and E1 interact during assembly of alphaviruses
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:614270 CAPLUS
TITLE: Second-generation DNA and alphavirus replicon-based vaccines
AUTHOR(S): Polo, John; Perri, Silvia; Greer, Catherine; O'Hagan, Derek; Singh, Manmohan; Otten, Gillis; Ulmer, Jeffrey;
Donnelly, John
CORPORATE SOURCE: Immunology and Infectious Diseases, Chiron Corporation, Emeryville, CA, 94608, USA
SOURCE: Abstracts of Papers, 224th ACS National Meeting, Boston, MA, United States, August 18-22, 2002 (2002), BIOT-314. American Chemical Society: Washington, D. C.
CODEN: 69CZPZ
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
TI Second-generation DNA and alphavirus replicon-based vaccines

L5 ANSWER 3 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:185275 CAPLUS
DOCUMENT NUMBER: 136:252464
TITLE: Vectors derived from south african arbovirus no. 86 and uses thereof as a therapeutic gene delivery vesicle for bone joint cells and bone marrow cells
INVENTOR(S): Johnston, Robert E.; Heise, Mark T.; Simpson, Dennis
PATENT ASSIGNEE(S): University of North Carolina at Chapel Hill, USA
SOURCE: PCT Int. Appl., 90 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2002020721	A2	20020314	WO 2001-US27644	20010906	
WO 2002020721	A3	20020627			

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2001090642	A5	20020322	AU 2001-90642	20010906	
PRIORITY APPLN. INFO.:			US 2000-230663P	P	20000907
			WO 2001-US27644	W	20010906

TI Vectors derived from south african arbovirus no. 86 and uses thereof as a therapeutic gene delivery vesicle for bone joint cells and bone marrow cells

L5 ANSWER 4 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:761271 CAPLUS
DOCUMENT NUMBER: 136:84626
TITLE: Identification of genes involved in the host response to neurovirulent alphavirus infection
AUTHOR(S): Johnston, Christine; Jiang, Wenxia; Chu, Tearina; Levine, Beth
CORPORATE SOURCE: Department of Medicine, Columbia University College of Physicians and Surgeons, New York, NY, 10032, USA
SOURCE: Journal of Virology (2001), 75(21), 10431-10445
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Identification of genes involved in the host response to neurovirulent alphavirus infection
REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:521822 CAPLUS
DOCUMENT NUMBER: 135:106287
TITLE: Overcoming interference in alphavirus immune individuals
INVENTOR(S): Hart, Mary Katherine; Azarion, Maryam
PATENT ASSIGNEE(S): United States of America as Represented by the Secretary of the Army, USA
SOURCE: U.S., 26 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 6261567	B1	20010717	US 1998-82357		19980520
PRIORITY APPLN. INFO.:			US 1997-47167P	P	19970520

US 1998-77731P P 19980312
TI Overcoming interference in alphavirus immune individuals
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 6 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:16307 CAPLUS
DOCUMENT NUMBER: 134:219457
TITLE: Differential roles of two conserved glycine residues in the fusion peptide of Semliki Forest virus
AUTHOR(S): Shome, Swati Ghosh; Kielian, Margaret
CORPORATE SOURCE: Department of Cell Biology, Albert Einstein College of Medicine, Bronx, NY, 10461, USA
SOURCE: Virology (2001), 279(1), 146-160
CODEN: VIRLAX; ISSN: 0042-6822
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Differential roles of two conserved glycine residues in the fusion peptide of Semliki Forest virus
REFERENCE COUNT: 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 7 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:742266 CAPLUS
DOCUMENT NUMBER: 133:320989
TITLE: Compositions and methods for generating an immune response utilizing alphavirus-based vector systems
INVENTOR(S): Polo, John M.; Dubensky, Thomas W., Jr.; Frolov, Ilya; Gardner, Jason P.; Otten, Gillis; Barnett, Susan; Driver, David A.
PATENT ASSIGNEE(S): Chiron Corporation, USA
SOURCE: PCT Int. Appl., 83 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000061772	A2	20001019	WO 2000-US10722	20000414
WO 2000061772	A3	20010208		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1175497	A2	20020130	EP 2000-923558	20000414
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO
JP 2002541814 T2 20021210 JP 2000-611695 20000414
WO 2001081609 A2 20011101 WO 2001-US9326 20010322
WO 2001081609 A3 20020228
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 1999-129498P P 19990414
US 1999-148086P P 19990809
US 2000-191363P P 20000322
WO 2000-US10722 W 20000414
TI Compositions and methods for generating an immune response utilizing alphavirus-based vector systems

L5 ANSWER 8 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:154183 CAPLUS
DOCUMENT NUMBER: 132:345299
TITLE: Adaptive mutations in Sindbis virus E2 and Ross River virus E1 that allow efficient budding of chimeric viruses
AUTHOR(S): Kim, Kyongmin Hwang; Strauss, Ellen G.; Strauss, James H.
CORPORATE SOURCE: Division of Biology, California Institute of Technology, Pasadena, CA, 91125, USA
SOURCE: Journal of Virology (2000), 74(6), 2663-2670
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Adaptive mutations in Sindbis virus E2 and Ross River virus E1 that allow efficient budding of chimeric viruses
REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:93468 CAPLUS
DOCUMENT NUMBER: 132:219362
TITLE: Biochemical consequences of a mutation that controls the cholesterol dependence of Semliki Forest virus fusion
AUTHOR(S): Chatterjee, Prodyot K.; Vashishtha, Malini; Kielian, Margaret
CORPORATE SOURCE: Department of Cell Biology, Albert Einstein College of Medicine, Bronx, NY, 10461, USA
SOURCE: Journal of Virology (2000), 74(4), 1623-1631
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Biochemical consequences of a mutation that controls the cholesterol

dependence of Semliki Forest virus fusion
REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 10 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:4844 CAPLUS
DOCUMENT NUMBER: 132:148857
TITLE: Rainbow trout sleeping disease virus is an atypical alphavirus
AUTHOR(S): Villoing, Stephane; Bearzotti, Monique; Chilmonczyk, Stefan; Castric, Jeannette; Bremont, Michel
CORPORATE SOURCE: Unite de Virologie et Immunologie Moleculaires, Institut National de la Recherche Agronomique, Jouy-en-Josas, 78352, Fr.
SOURCE: Journal of Virology (2000), 74(1), 173-183
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Rainbow trout sleeping disease virus is an atypical alphavirus
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 11 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:622010 CAPLUS
DOCUMENT NUMBER: 131:349280
TITLE: Growth and stability of a cholesterol-independent Semliki Forest virus mutant in mosquitoes
AUTHOR(S): Ahn, Anna; Schoepp, Randal J.; Sternberg, David; Kielian, Margaret
CORPORATE SOURCE: Department of Cell Biology, Albert Einstein College of Medicine, Bronx, NY, 10461, USA
SOURCE: Virology (1999), 262(2), 452-456
CODEN: VIRLAX; ISSN: 0042-6822
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Growth and stability of a cholesterol-independent Semliki Forest virus mutant in mosquitoes
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 12 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:263477 CAPLUS
DOCUMENT NUMBER: 131:71025
TITLE: The cholesterol requirement for Sindbis virus entry and exit and characterization of a spike protein region involved in cholesterol dependence
AUTHOR(S): Lu, Yanping E.; Cassese, Todd; Kielian, Margaret
CORPORATE SOURCE: Department of Cell Biology, Albert Einstein College of Medicine, Bronx, NY, 10461, USA
SOURCE: Journal of Virology (1999), 73(5), 4272-4278

CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI The cholesterol requirement for Sindbis virus entry and exit and characterization of a spike protein region involved in cholesterol dependence
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 13 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:63191 CAPLUS
DOCUMENT NUMBER: 130:247589
TITLE: Two-helper RNA system for production of recombinant Semliki Forest virus particles
AUTHOR(S): Smerdou, C.; Liljestrom, P.
CORPORATE SOURCE: Microbiology and Tumor Biology Center, Karolinska Institute, Stockholm, S-17177, Swed.
SOURCE: Journal of Virology (1999), 73(2), 1092-1098
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Two-helper RNA system for production of recombinant Semliki Forest virus particles
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 14 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:790681 CAPLUS
DOCUMENT NUMBER: 130:34018
TITLE: Live attenuated virus vaccines for equine encephalitis viruses
INVENTOR(S): Parker, Michael D.; Smith, Jonathan F.; Crise, Bruce J.; Oberste, Mark Steve; Schmura, Shannon M.
PATENT ASSIGNEE(S): Walter Reed Army Institute of Research, USA
SOURCE: PCT Int. Appl., 112 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9853077	A1	19981126	WO 1998-US10645	19980520
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 6261570	B1	20010717	US 1997-991840	19971216

AU 9875018 A1 19981211 AU 1998-75018 19980520
PRIORITY APPLN. INFO.: US 1997-47162P P 19970520
US 1997-53652P P 19970724
US 1997-991840 A 19971216
WO 1998-US10645 W 19980520
TI Live attenuated virus vaccines for equine encephalitis viruses
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 15 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:634737 CAPLUS
DOCUMENT NUMBER: 129:313305
TITLE: Effects of site-directed mutations of transmembrane cysteines in Sindbis virus E1 and E2 **glycoproteins** on palmitylation and virus replication
AUTHOR(S): Ryan, Christine; Ivanova, Lidia; Schlesinger, Milton J.
CORPORATE SOURCE: Department of Molecular Microbiology, Washington University School of Medicine, St. Louis, MO, 63110-1093, USA
SOURCE: Virology (1998), 249(1), 62-67
CODEN: VIRLAX; ISSN: 0042-6822
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Effects of site-directed mutations of transmembrane cysteines in Sindbis virus E1 and E2 **glycoproteins** on palmitylation and virus replication
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 16 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:266214 CAPLUS
DOCUMENT NUMBER: 129:2681
TITLE: fus-1, a pH shift mutant of Semliki Forest virus, acts
by altering spike subunit interactions via a mutation in the E2 subunit
AUTHOR(S): Glomb-Reinmund, Sallie; Kielian, Margaret
CORPORATE SOURCE: Department of Cell Biology, Albert Einstein College of
Medicine, Bronx, NY, 10461, USA
SOURCE: Journal of Virology (1998), 72(5), 4281-4287
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI fus-1, a pH shift mutant of Semliki Forest virus, acts by altering spike subunit interactions via a mutation in the E2 subunit
REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L5 ANSWER 17 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:258486 CAPLUS

DOCUMENT NUMBER: 129:38690
TITLE: Mutations in the Sindbis virus capsid gene can partially suppress mutations in the cytoplasmic domain of the virus E2 **glycoprotein** spike
AUTHOR(S): Ryan, Christine; Ivanova, Lidia; Schlesinger, Milton J.
CORPORATE SOURCE: Department of Molecular Microbiology, Washington University School of Medicine, St. Louis, MO, 63110-1093, USA
SOURCE: Virology (1998), 243(2), 380-387
CODEN: VIRLAX; ISSN: 0042-6822
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Mutations in the Sindbis virus capsid gene can partially suppress mutations in the cytoplasmic domain of the virus E2 **glycoprotein** spike
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 18 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:52576 CAPLUS
DOCUMENT NUMBER: 128:190275
TITLE: Molecular genetic study of the interaction of Sindbis virus E2 with Ross River virus E1 for virus budding
AUTHOR(S): Yao, Jiansheng; Strauss, Ellen G.; Strauss, James H.
CORPORATE SOURCE: Div. Biol., California Inst. Technol., Pasadena, CA, 91125, USA
SOURCE: Journal of Virology (1998), 72(2), 1418-1423
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Molecular genetic study of the interaction of Sindbis virus E2 with Ross River virus E1 for virus budding

L5 ANSWER 19 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:684486 CAPLUS
DOCUMENT NUMBER: 127:355946
TITLE: Recombinant alphavirus-based vectors with reduced inhibition of cellular macromolecular synthesis
INVENTOR(S): Dubensky, Thomas W., Jr.; Polo, John M.; Belli, Barbara A.; Schlesinger, Sondra; Dryga, Sergey A.; Frolov, Ilya
PATENT ASSIGNEE(S): Chiron Viagene, Inc., USA; Washington University; Dubensky, Thomas W., Jr.; Polo, John M.; Belli, Barbara A.; Schlesinger, Sondra; Dryga, Sergey A.; Frolov, Ilya
SOURCE: PCT Int. Appl., 308 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 9738087 A2 19971016 WO 1997-US6010 19970404
W: AL, AM, AT, AU, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
AU 9728007 A1 19971029 AU 1997-28007 19970404
EP 907746 A2 19990414 EP 1997-922294 19970404
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
JP 2001521369 T2 20011106 JP 1997-536512 19970404
US 6458560 B1 20021001 US 1999-415868 19991008
US 6465634 B1 20021015 US 1999-415900 19991008
PRIORITY APPLN. INFO.: US 1996-628594 A 19960405
US 1996-668953 A 19960624
US 1996-679640 A 19960712
US 1997-833148 B2 19970404
WO 1997-US6010 W 19970404
US 1997-944645 A3 19971006
TI Recombinant alphavirus-based vectors with reduced inhibition of cellular macromolecular synthesis

L5 ANSWER 20 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:484316 CAPLUS
DOCUMENT NUMBER: 125:137564
TITLE: Mutations in the endo domain of Sindbis virus **glycoprotein** E2 block phosphorylation, reorientation of the endo domain, and nucleocapsid binding
AUTHOR(S): Liu, Linda N.; Lee, Heuiran; Harnandez, Raquel; Brown, Dennis T.
CORPORATE SOURCE: Dep. Microbiology, Univ. Texas Austin, Austin, TX, 78713-7640, USA
SOURCE: Virology (1996), 222(1), 236-246
CODEN: VIRLAX; ISSN: 0042-6822
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Mutations in the endo domain of Sindbis virus **glycoprotein** E2 block phosphorylation, reorientation of the endo domain, and nucleocapsid binding

L5 ANSWER 21 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:133588 CAPLUS
DOCUMENT NUMBER: 124:170349
TITLE: Characterization of revertants of a Sindbis virus 6K gene mutant that affects proteolytic processing and virus assembly
AUTHOR(S): Ivanova, Lidia; Le, Lam; Schlesinger, Milton J.
CORPORATE SOURCE: Dep. Mol. Microbiol., Washington Univ. Sch. Med., St. Louis, MO, 63110, USA
SOURCE: Virus Research (1995), 39(2-3), 165-79
CODEN: VIREDF; ISSN: 0168-1702
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

TI Characterization of revertants of a Sindbis virus 6K gene mutant that affects proteolytic processing and virus assembly

L5 ANSWER 22 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:99290 CAPLUS
DOCUMENT NUMBER: 124:167073
TITLE: Deduced consensus sequence of Sindbis Virus strain AR339: mutations contained in laboratory strains which affect cell culture and in vivo phenotypes
AUTHOR(S): McKnight, Kevin L.; Simpson, Dennis A.; Lin, Seh-Ching; Knott, Travis A.; Polo, John M.; Pence, David F.; Johannsen, Diana B.; Heidner, Hans W.; Davis, Nancy L.; Johnston, Robert E.
CORPORATE SOURCE: Dep. Microbiology Immunology, Univ. North Carolina, Chapel Hill, NC, 27599-7290, USA
SOURCE: Journal of Virology (1996), 70(3), 1981-89
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Deduced consensus sequence of Sindbis Virus strain AR339: mutations contained in laboratory strains which affect cell culture and in vivo phenotypes

L5 ANSWER 23 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:812038 CAPLUS
DOCUMENT NUMBER: 123:222599
TITLE: Attenuated mutants of Venezuelan equine encephalitis virus containing lethal mutations in the PE2 cleavage signal combined with a second-site suppressor mutation in E1
AUTHOR(S): Davis, Nancy L.; Brown, Kevin W.; Greenwald, Gary F.; Zajac, Allan J.; Zacny, Valerie; Smith, Jonathan F.; Johnston, Robert E.
CORPORATE SOURCE: Dep. of Microbiology and Immunology, Univ. of North Carolina, Chapel Hill, NC, 25799, USA
SOURCE: Virology (1995), 212(1), 102-10
CODEN: VIRLAX; ISSN: 0042-6822
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Attenuated mutants of Venezuelan equine encephalitis virus containing lethal mutations in the PE2 cleavage signal combined with a second-site suppressor mutation in E1

L5 ANSWER 24 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:526534 CAPLUS
DOCUMENT NUMBER: 121:126534
TITLE: Multiple repeating motifs are found in the 3'-terminal non-translated region of Semliki Forest virus A7 variant genome
AUTHOR(S): Santagati, Maria G.; Itaeranta, Petri V.; Koskimies, Pasi R.; Maeaettae, Jorma A.; Salmi, Aimo A.; Hinkkanen, Ari E.
CORPORATE SOURCE: Dep. Virology, Univ. Turku, Turku, FIN-20520, Finland
SOURCE: Journal of General Virology (1994), 75(6), 1499-504
CODEN: JGVIAY; ISSN: 0022-1317

DOCUMENT TYPE: Journal
LANGUAGE: English
TI Multiple repeating motifs are found in the 3'-terminal non-translated region of Semliki Forest virus A7 variant genome

L5 ANSWER 25 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:239766 CAPLUS
DOCUMENT NUMBER: 120:239766
TITLE: Nucleocapsid-**glycoprotein** interactions required for assembly of alphaviruses
AUTHOR(S): Lopez, Susana; Yao, Jian Sheng; Kuhn, Richard J.; Strauss, Ellen G.; Strauss, James H.
CORPORATE SOURCE: Div. Biol., California Inst. Technol., Pasadena, CA, 91125, USA
SOURCE: Journal of Virology (1994), 68(3), 1316-23
CODEN: JOVIAM; ISSN: 0022-538X
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Nucleocapsid-**glycoprotein** interactions required for assembly of alphaviruses

L5 ANSWER 26 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:467805 CAPLUS
DOCUMENT NUMBER: 119:67805
TITLE: Sindbis virus attachment: Isolation and characterization of mutants with impaired binding to vertebrate cells
AUTHOR(S): Dubuisson, Jean; Rice, Charles M.
CORPORATE SOURCE: Sch. Med., Washington Univ., St. Louis, MO, 63110-1093, USA
SOURCE: Journal of Virology (1993), 67(6), 3363-74
CODEN: JOVIAM; ISSN: 0022-538X
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Sindbis virus attachment: Isolation and characterization of mutants with impaired binding to vertebrate cells

L5 ANSWER 27 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:404764 CAPLUS
DOCUMENT NUMBER: 119:4764
TITLE: Site-directed mutations in the Sindbis virus E2 **glycoprotein** identify palmitoylation sites and affect virus budding
AUTHOR(S): Ivanova, Lidia; Schlesinger, Milton J.
CORPORATE SOURCE: Sch. Med., Washington Univ., St. Louis, MO, 63110-1093, USA
SOURCE: Journal of Virology (1993), 67(5), 2546-51
CODEN: JOVIAM; ISSN: 0022-538X
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Site-directed mutations in the Sindbis virus E2 **glycoprotein** identify palmitoylation sites and affect virus budding

L5 ANSWER 28 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:187537 CAPLUS
DOCUMENT NUMBER: 118:187537
TITLE: An in-frame insertion into the Sindbis virus 6K gene leads to defective proteolytic processing of the virus
glycoproteins, a trans-dominant negative

inhibition of normal virus formation, and interference
in virus shut off of host-cell protein synthesis
AUTHOR(S): Schlesinger, Milton J.; London, Steven D.; Ryan, Christine
CORPORATE SOURCE: Sch. Med., Washington Univ., St. Louis, MO, 63110, USA
SOURCE: Virology (1993), 193(1), 424-32
CODEN: VIRLAX; ISSN: 0042-6822
DOCUMENT TYPE: Journal
LANGUAGE: English
TI An in-frame insertion into the Sindbis virus 6K gene leads to defective proteolytic processing of the virus **glycoproteins**, a trans-dominant negative inhibition of normal virus formation, and interference in virus shut off of host-cell protein synthesis

L5 ANSWER 29 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:97852 CAPLUS
DOCUMENT NUMBER: 118:97852
TITLE: Effect of mutations in structural protein genes on attenuation of Venezuelan equine encephalitis virus
AUTHOR(S): Frolov, I. V.; Agapov, E. V.; Kolykhalov, A. A.; Netesov, S. V.; Sandakhchiev, L. S.
CORPORATE SOURCE: Nauchno-Proizvod. Ob'edin. "Vektor", Koltsovo, Russia
SOURCE: Doklady Akademii Nauk (1992), 326(6), 1078-82 [Virol.]
CODEN: DAKNEQ; ISSN: 0869-5652
DOCUMENT TYPE: Journal
LANGUAGE: Russian
TI Effect of mutations in structural protein genes on attenuation of Venezuelan equine encephalitis virus

L5 ANSWER 30 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:510197 CAPLUS
DOCUMENT NUMBER: 115:110197
TITLE: Mutagenesis of the putative fusion domain of the Semliki Forest virus spike protein
AUTHOR(S): Levy-Mintz, Pnina; Kielian, Margaret
CORPORATE SOURCE: Dep. Cell Biol., Albert Einstein Coll., Bronx, NY, 10461, USA
SOURCE: Journal of Virology (1991), 65(8), 4292-300
CODEN: JOVIAM; ISSN: 0022-538X
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Mutagenesis of the putative fusion domain of the Semliki Forest virus spike protein

L5 ANSWER 31 OF 48 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:160513 CAPLUS
DOCUMENT NUMBER: 114:160513
TITLE: Proteolytic processing of the Sindbis virus membrane protein precursor PE2 is nonessential for growth in vertebrate cells but is required for efficient growth in invertebrate cells
AUTHOR(S): Presley, John F.; Polo, John M.; Johnston, Robert E.; Brown, Dennis T.
CORPORATE SOURCE: Cell Res. Inst., Univ. Texas, Austin, TX, 78712-7640, USA
SOURCE: Journal of Virology (1991), 65(4), 1905-9
CODEN: JOVIAM; ISSN: 0022-538X

DOCUMENT TYPE: Journal
LANGUAGE: English
TI Proteolytic processing of the Sindbis virus membrane protein precursor PE2
is nonessential for growth in vertebrate cells but is required for efficient growth in invertebrate cells

L5 ANSWER 32 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:560452 BIOSIS
DOCUMENT NUMBER: PREV200200560452
TITLE: Molecular genetic evidence that the hydrophobic anchors of **glycoproteins** E2 and E1 interact during assembly of alphaviruses.
AUTHOR(S): Strauss, Ellen G. (1); Lenches, Edith M.; Strauss, James H.
CORPORATE SOURCE: (1) Division of Biology, California Institute of Technology, 156-29, Pasadena, CA, 91125: strausse@cco.caltech.edu USA
SOURCE: Journal of Virology, (October, 2002) Vol. 76, No. 20, pp. 10188-10194. http://intl-jvi.asm.org/. print.
ISSN: 0022-538X.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Molecular genetic evidence that the hydrophobic anchors of **glycoproteins** E2 and E1 interact during assembly of alphaviruses.

L5 ANSWER 33 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2001:527208 BIOSIS
DOCUMENT NUMBER: PREV200100527208
TITLE: Identification of genes involved in the host response to neurovirulent alphavirus infection.
AUTHOR(S): Johnston, Christine; Jiang, Wenxia; Chu, Tearina; Levine, Beth (1)
CORPORATE SOURCE: (1) Department of Medicine, Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York, NY, 10032: levine@cuccfa.ccc.columbia.edu USA
SOURCE: Journal of Virology, (November, 2001) Vol. 75, No. 21, pp. 10431-10445. print.
ISSN: 0022-538X.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English
TI Identification of genes involved in the host response to neurovirulent alphavirus infection.

L5 ANSWER 34 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2000:190742 BIOSIS
DOCUMENT NUMBER: PREV200000190742
TITLE: Adaptive mutations in Sindbis virus E2 and Ross River virus
E1 that allow efficient budding of chimeric viruses.
AUTHOR(S): Kim, Kyongmin Hwang; Strauss, Ellen G.; Strauss, James H. (1)
CORPORATE SOURCE: (1) Division of Biology, California Institute of Technology, Pasadena, CA, 91125 USA
SOURCE: Journal of Virology, (March, 2000) Vol. 74, No. 6, pp. 2663-2670.
ISSN: 0022-538X.
DOCUMENT TYPE: Article
LANGUAGE: English

SUMMARY LANGUAGE: English
TI Adaptive mutations in Sindbis virus E2 and Ross River virus E1 that allow efficient budding of chimeric viruses.

L5 ANSWER 35 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2000:62102 BIOSIS
DOCUMENT NUMBER: PREV200000062102
TITLE: Rainbow trout sleeping disease virus is an atypical alphavirus.
AUTHOR(S): Villoing, Stephane; Bearzotti, Monique; Chilmonczyk, Stefan; Castric, Jeannette; Bremont, Michel (1)
CORPORATE SOURCE: (1) Unite de Virologie et Immunologie Moleculaires, Institut National de la Recherche Agronomique, 78352, Jouy-en-Josas Cedex France
SOURCE: Journal of Virology, (Jan., 2000) Vol. 74, No. 1, pp. 173-183.
ISSN: 0022-538X.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English
TI Rainbow trout sleeping disease virus is an atypical alphavirus.

L5 ANSWER 36 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:489684 BIOSIS
DOCUMENT NUMBER: PREV199800489684
TITLE: Effects of site-directed mutations of transmembrane cysteines in sindbis virus E1 and E2 **glycoproteins** on palmitylation and virus replication.
AUTHOR(S): Ryan, Christine; Ivanova, Lidia; Schlesinger, Milton J. (1)
CORPORATE SOURCE: (1) Dep. Mol. Microbiol., Washington Univ. Sch. Med., St. Louis, MO 63110-1093 USA
SOURCE: Virology, (Sept. 15, 1998) Vol. 249, No. 1, pp. 62-67.
ISSN: 0042-6822.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Effects of site-directed mutations of transmembrane cysteines in sindbis virus E1 and E2 **glycoproteins** on palmitylation and virus replication.

L5 ANSWER 37 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:256095 BIOSIS
DOCUMENT NUMBER: PREV199800256095
TITLE: Mutations in the Sindbis virus capsid gene can partially suppress mutations in the cytoplasmic domain of the virus E2 **glycoprotein** spike.
AUTHOR(S): Ryan, Christine; Ivanova, Lidia; Schlesinger, Milton J. (1)
CORPORATE SOURCE: (1) Dep. Mol. Microbiol., Box 8230, Washington Univ. Sch. Med., 660 S. Euclid Ave., St. Louis, MO 63110-1093 USA
SOURCE: Virology, (April 10, 1998) Vol. 243, No. 2, pp. 380-387.
ISSN: 0042-6822.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Mutations in the Sindbis virus capsid gene can partially suppress mutations in the cytoplasmic domain of the virus E2 **glycoprotein** spike.

L5 ANSWER 38 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:95349 BIOSIS

DOCUMENT NUMBER: PREV199800095349
TITLE: Molecular genetic study of the interaction of Sindbis virus
E2 with Ross River virus E1 for virus budding.
AUTHOR(S): Yao, Jiansheng; Strauss, Ellen G.; Strauss, James H. (1)
CORPORATE SOURCE: (1) Div. Biol. 15629, California Inst. Technol., Pasadena, CA 91125 USA
SOURCE: Journal of Virology, (Feb., 1998) Vol. 72, No. 2, pp. 1418-1423.
ISSN: 0022-538X.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Molecular genetic study of the interaction of Sindbis virus E2 with Ross River virus E1 for virus budding.

L5 ANSWER 39 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1996:456987 BIOSIS
DOCUMENT NUMBER: PREV199699179343
TITLE: Mutations in the endo domain of Sindbis virus **glycoprotein** E2 block phosphorylation, reorientation of the endo domain, and nucleocapsid binding.
AUTHOR(S): Liu, Linda N.; Lee, Heuiran; Hernandez, Raquel; Brown, Dennis T. (1)
CORPORATE SOURCE: (1) Cell Res. Inst., Dep. Microbiol., Univ. Texas at Austin, Austin, TX 78713-7640 USA
SOURCE: Virology, (1996) Vol. 222, No. 1, pp. 236-246.
ISSN: 0042-6822.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Mutations in the endo domain of Sindbis virus **glycoprotein** E2 block phosphorylation, reorientation of the endo domain, and nucleocapsid binding.

L5 ANSWER 40 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1996:154833 BIOSIS
DOCUMENT NUMBER: PREV199698726968
TITLE: Characterization of revertants of a Sindbis virus 6K gene mutant that affects proteolytic processing and virus assembly.
AUTHOR(S): Ivanova, Lidia; Le, Lam; Schlesinger, Milton J. (1)
CORPORATE SOURCE: (1) Dep. Mol. Microbiol., Washington Univ. Sch. Med., Box 8230, 660 So. Euclid St., St. Louis, MO 63110 USA
SOURCE: Virus Research, (1995) Vol. 39, No. 2-3, pp. 165-179.
ISSN: 0168-1702.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Characterization of revertants of a Sindbis virus 6K gene mutant that affects proteolytic processing and virus assembly.

L5 ANSWER 41 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1996:154813 BIOSIS
DOCUMENT NUMBER: PREV199698726948
TITLE: Deduced consensus sequence of sindbis virus strain AR339: Mutations contained in laboratory strains which affect cell
culture and in vivo phenotypes.
AUTHOR(S): McKnight, Kevin L.; Simpson, Dennis A.; Lin, Seh-Ching; Knott, Travis A.; Polo, John M.; Pence, David F.; Johannsen, Diana B.; Heidner, Hans W.; Davis, Nancy L.;

Johnston, Robert E. (1)
CORPORATE SOURCE: (1) Dep. Microbiol. Immunol., Sch. Medicine, Univ. N.C., Chapel Hill, NC 27599-7290 USA
SOURCE: Journal of Virology, (1996) Vol. 70, No. 3, pp. 1981-1989.
ISSN: 0022-538X.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Deduced consensus sequence of sindbis virus strain AR339: Mutations contained in laboratory strains which affect cell culture and in vivo phenotypes.

L5 ANSWER 42 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1995:483811 BIOSIS
DOCUMENT NUMBER: PREV199598498111
TITLE: Attenuated mutants of Venezuelan equine encephalitis virus containing lethal mutations in the PE2 cleavage signal combined with a second-site suppressor mutation in E1.
AUTHOR(S): Davis, Nancy L. (1); Brown, Kevin W.; Greenwald, Gary F.; Zajac, Allan J.; Zacny, Valerie L.; Smith, Jonathan F.; Johnston, Robert E.
CORPORATE SOURCE: (1) Dep. Microbiol. Immunol., Box 7290, Univ. North Carolina, Chapel Hill, NC 27599 USA
SOURCE: Virology, (1995) Vol. 212, No. 1, pp. 102-110.
ISSN: 0042-6822.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Attenuated mutants of Venezuelan equine encephalitis virus containing lethal mutations in the PE2 cleavage signal combined with a second-site suppressor mutation in E1.

L5 ANSWER 43 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1994:357921 BIOSIS
DOCUMENT NUMBER: PREV199497370921
TITLE: Multiple repeating motifs are found in the 3'-terminal non-translated region of Semliki Forest virus A7 variant genome.
AUTHOR(S): Santagati, Maria G.; Itaranta, Petri V.; Koskimies, Pasi R.; Maatta, Jorma A.; Salmi, Aimo A.; Hinkkanen, Ari E.
CORPORATE SOURCE: Dep. Virol., Univ. Turku, Kiinamyllynkatu 13, FIN-20520 Turku Finland
SOURCE: Journal of General Virology, (1994) Vol. 75, No. 6, pp. 1499-1504.
ISSN: 0022-1317.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Multiple repeating motifs are found in the 3'-terminal non-translated region of Semliki Forest virus A7 variant genome.

L5 ANSWER 44 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1994:169979 BIOSIS
DOCUMENT NUMBER: PREV199497182979
TITLE: Nucleocapsid-**glycoprotein** interactions required for assembly of alphaviruses.
AUTHOR(S): Lopez, Susana; Yao, Jian-Sheng; Kuhn, Richard J.; Strauss, Ellen G.; Strauss, James H. (1)
CORPORATE SOURCE: (1) Div. Biol. 156-29, California Inst. Technol., Pasadena, CA 91125 USA
SOURCE: Journal of Virology, (1994) Vol. 68, No. 3, pp. 1316-1323.

ISSN: 0022-538X.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Nucleocapsid-**glycoprotein** interactions required for assembly of alphaviruses.

L5 ANSWER 45 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1993:327091 BIOSIS
DOCUMENT NUMBER: PREV199396035441
TITLE: Sindbis virus attachment: Isolation and characterization of
mutants with impaired binding to vertebrate cells.
AUTHOR(S): Dubuisson, Jean; Rice, Charles M. (1)
CORPORATE SOURCE: (1) Dep. Mol. Microbiol., Wash. Univ. Sch. Med., 660 S. Euclid Ave., Box 8230, St. Louis, MO 63110-1093 USA
SOURCE: Journal of Virology, (1993) Vol. 67, No. 6, pp. 3363-3374.
ISSN: 0022-538X.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Sindbis virus attachment: Isolation and characterization of mutants with impaired binding to vertebrate cells.

L5 ANSWER 46 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1993:281785 BIOSIS
DOCUMENT NUMBER: PREV199396012010
TITLE: Site-directed mutations in the Sindbis virus E2 **glycoprotein** identify palmitoylation sites and affect virus budding.
AUTHOR(S): Ivanova, Lidia; Schlesinger, Milton J. (1)
CORPORATE SOURCE: (1) Dep. Molecular Microbiol., Washington Univ. Sch. Med., St. Louis, MO 63110-1093
SOURCE: Journal of Virology, (1993) Vol. 67, No. 5, pp. 2546-2551.
ISSN: 0022-538X.
DOCUMENT TYPE: Article
LANGUAGE: English
TI Site-directed mutations in the Sindbis virus E2 **glycoprotein** identify palmitoylation sites and affect virus budding.

L5 ANSWER 47 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1993:214223 BIOSIS
DOCUMENT NUMBER: PREV199395115448
TITLE: An in-frame insertion into the Sindbis virus 6K gene leads to defective proteolytic processing of the virus **glycoproteins**, a trans-dominant negative inhibition of normal virus formation, and interference in virus shut off of host-cell protein synthesis.
AUTHOR(S): Schlesinger, Milton J. (1); London, Steven D.; Ryan, Christine
CORPORATE SOURCE: (1) Dep. Molecular Microbiology, Box 8230, Washington University School Medicine, St. Louis, MO 63110
SOURCE: Virology, (1993) Vol. 193, No. 1, pp. 424-432.
ISSN: 0042-6822.
DOCUMENT TYPE: Article
LANGUAGE: English
TI An in-frame insertion into the Sindbis virus 6K gene leads to defective proteolytic processing of the virus **glycoproteins**, a trans-dominant negative inhibition of normal virus formation, and interference in virus shut off of host-cell protein synthesis.

L5 ANSWER 48 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1988:178161 BIOSIS
DOCUMENT NUMBER: BA85:90263
TITLE: SELECTION FOR ACCELERATED PENETRATION IN CELL CULTURE COSELECTS FOR ATTENUATED MUTANTS OF VENEZUELAN EQUINE ENCEPHALITIS VIRUS.
AUTHOR(S): JOHNSTON R E; SMITH J F
CORPORATE SOURCE: DEP. MICROBIOL., NORTH CAROLINA STATE UNIV., RALEIGH, N.C. 27695.
SOURCE: VIROLOGY, (1988) 162 (2), 437-443.
CODEN: VIRLAX. ISSN: 0042-6822.
FILE SEGMENT: BA; OLD
LANGUAGE: English
TI SELECTION FOR ACCELERATED PENETRATION IN CELL CULTURE COSELECTS FOR ATTENUATED MUTANTS OF VENEZUELAN EQUINE ENCEPHALITIS VIRUS.

=> log off
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:H
SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 07:43:29 ON 24 JAN 2003